

## EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 07122198  
 PUBLICATION DATE : 12-05-95

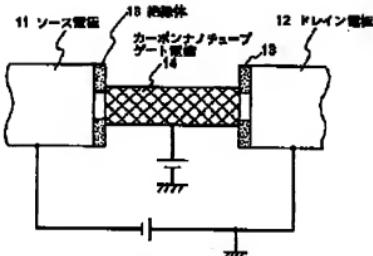
APPLICATION DATE : 25-10-93  
 APPLICATION NUMBER : 05266644

APPLICANT : NEC CORP;

INVENTOR : NAKAMURA KAZUO;

INT.CL. : H01J 21/06

TITLE : CARBON NANOTUBE TRANSISTOR



**ABSTRACT :** PURPOSE: To provide an extremely small-sized transistor which operates at low voltage.

**CONSTITUTION:** A source electrode 11 and a drain electrode 12 are provided on both ends of a carbon nanotube electrode. 14 through Insulators 13. The nanotube is cylindrical, and the inner part is generally vacuum. Thus, when a voltage is applied between the source and drain electrodes, electrons are emitted from the source electrode to the drain electrode to form a drain current. When a gate voltage is applied to the nanotube 14, the number of electrons reaching the drain can be controlled, and the nanotube is operated as a transistor.

COPYRIGHT: (C)1995,JPO